



UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/949,988	10/14/97	YUNG	K PD-96315

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PM51/1231

EXAMINER

DINH, T

ART UNIT	PAPER NUMBER
3641	3

DATE MAILED: 12/31/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No. <b>08/949,988</b>	Applicant(s) <b>Yung et al</b>
Examiner <b>T. Dinh</b>	Group Art Unit <b>3641</b>

Responsive to communication(s) filed on \_\_\_\_\_.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

Claim(s) 1-19 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-19 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the block 30 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 10, it is stated that the system determine the time dependent coverage of the satellite constellation based on the period of the rotation of the satellites. This is misleading since it seems that this can not be done. The period of rotation of the satellites is the time it takes for it to rotate around its axis in one revolution. How could one skilled in the art obtain the period of coverage from the period of rotation? Could the applicant mean the period of orbit and not rotation? Please explain.

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***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Draim in view of Horstein, et al '368.

Draim discloses that a satellite constellations covering a specific geographical area but is silent on the tilting of the constellations to cover a second coverage. However, Horstein, et al '368 teaches that an orbit trajectory having many tilt or inclination to cover various geographical areas are well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tilted the trajectory of the satellite constellations of Draim as taught by Horstein et al '368 to maximize the coverage area of the desired geographical area.

As for the determining the "period of rotation" and determining the time coverage of the constellation based on the period of rotation and the trajectory of the desired satellite, please note that these are inherent steps that one skilled in the art would take so that the desired positions of the satellite can be accomplished to prevent the satellite from being lost and to maximize the coverage.

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As for the programming of the computers on the satellite or sending command signals to the satellite and using simulations, please note that in today's day and age, these topics are well known to be used in the aerospace field.

As for the equations and the rotation matrices, please note that these are basic, inherent equations that one skilled in the art would have used to determine the period of rotations.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Grisham, Castiel et al, Smith et al, Bond, and Kefalas et al teaches various tilting of the trajectory.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is (703) 308-2798. The examiner can normally be reached on Monday thru Friday from 8 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, C. Jordan, can be reached on (703) 306-4159.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

*Charles T. Jordan*  
Charles T. Jordan  
Supervisory Patent Examiner  
Group 3600